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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

MM91/0417

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ART UNIT

PAPER NUMBER

2881

DATE MAILED:

04/17/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/629,022

Applicant(s)

DO ET AL.

Examiner

Kalimah Fernandez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2001.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claims 5-8 and 24-27 are objected to because of the following informalities: As stated previously, the phrase "one of the support" is considered to be misleading. Although, applicant's clamorous response asserts that the phrase "one of the support" does not imply more than one support, the wording of said claims is considered to be ambiguous in nature.
2. Applicant's arguments are duly considered, however the objection stands. The issue is minor, however it is advantageous for the public and the applicant to opt for concise and definite claim language. Therefore, if applicant intended either the support or the source, applicant is advised to say precisely this intention. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 1-4, 9-10, and 12-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6114695 issued to Todokoro et. al. and in view US 6166380 issued to Kitagawa et al. Todokoro discloses the capability of obtaining a three-

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dimensional image using two or more particle beams, which have different incidence energy (i.e. different foci exposure) (refer to col. 3, lines 55-59).

5. Todokoro, also, teaches obtaining a surface image of the sample using a scanning electron beam at a specific energy range (col.6, lines 31-42) and the acquisition of a internal structure image utilizing a electron beam at a large depth, e.g. different focal depth (col.6, lines 43-52).

6. Todokoro does not teach the use of a support capable of sample movement in all directions (i.e. x ,y, and z planes). However, Kitagawa discloses the use of a x-y-z sample stage employed in a scanning electron microscope. Kitagawa discloses the purpose of x-y-z stage is to enable the apparatus the utmost versatility (col.4, lines 31-36).

7. The motivation to incorporate the teaching of a x-y-z stage from Kitagawa into Todokoro flows from Todokoro's teaching of the problem of observing a deep hole with conventional scanning microscope. Namely, Kitagawa uses the x-y-z stage as to effect the capability of obtaining a image from transmitted electrons as well as secondary electrons, whereas Todokoro teaches the use of a beam having sufficient energy to penetrate through the sample to obtain internal structure information (col.3, lines 60-67). One skilled in the art at the time of the invention was made would have been motivated to effect Todokoro's invention with a x-y-z as taught by Kitagawa, since the versatility afforded by the x-y-z stage would have been obvious.

8. Furthermore, it is well known in the art to use both a x-y stage and a x-y-z stage and the selection of either stage is within the level of ordinary skill in the art. Therefore, the use of a x-y-z stage over a x-y is obvious, if so desired.

9. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Todokoro and Kitagawa as applied to claims 1 and 4 above, and further in view of Kuni.

10. Todokoro does not teach a third detector used to monitor the movement of the sample stage. However, Kuni employs optical components, including a light source and detector in his apparatus (col.2, line 49 – col.3, line 5). It would have been obvious to one skilled in the art to incorporate the stage monitoring system of Kuni into Todokoro to more accurately account for positioning data.

11. Moreover, it is well known in the art to effect voltage vs. position correlation in the analysis of sample features. Therefore, the addition of a memory device and printing device are considered inherent to the teachings of Todokoro's image memory (see figure 49, numerical (318)). Obviously, a printing device was employed to generate Todokoro's figures 45a –47b.

Response to Amendment

12. Claim amendments as filed on 3/22/01 are acknowledge and duly entered.

Response to Arguments

13. Applicant's arguments with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection, necessitated by amendment.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalimah Fernandez whose telephone number is 703-

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305-6310. The examiner can normally be reached on Mon-Fri between 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa Arroyo can be reached on 703-308-4782. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

kf
April 12, 2001


JACK BERMAN
PRIMARY EXAMINER